

1 What is claimed is:

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3 1. A control panel assembly for a washing machine, comprising:

4 a board having a switch and parts mounted thereon;

5 a control panel installed at one side of a cabinet of the washing machine to cover the
6 board to protect; and

7 a knob connected to the switch to penetrate the control panel wherein a rear end is
8 partially contacted with a backside of the control panel.

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10 2. The control panel assembly as claimed in claim 1, wherein a top of the rear
11 end of the knob is brought line-contact with the backside of the control panel.

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13 3. The control panel assembly as claimed in claim 1, wherein a rear end surface
14 of the knob and the backside of the control panel are arranged to differ in angles.

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16 4. The control panel assembly as claimed in claim 1, wherein the knob
17 comprises a flange extending from a circumference of a rear end to be partially brought line-
18 contact with the backside of the control panel.

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20 5. The control panel assembly as claimed in claim 4, wherein a front side of the
21 flange and the backside of the control panel are arranged to differ in angles.

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23 6. The control panel assembly as claimed in claim 1, further comprising a
24 support provided between the board and the knob to support the knob slant to the backside of

the control panel.

7. The control panel assembly as claimed in claim 6, wherein the knob comprises a flange extending from a circumference of a rear end to be supported by the support and to be partially brought line-contact with the backside of the control panel.

8. The control panel assembly as claimed in claim 6, wherein the support makes one side of the rear end of the knob adhere closely to the backside of the control panel and the other side of the rear end of the knob separated from the backside of the control panel to support the knob.

9. The control panel assembly as claimed in claim 6, wherein the support encloses the switch.

10. The control panel assembly as claimed in claim 6, wherein the support comprises a first face extending inward from an inner circumference of the support to support the rear end of the knob slant to the backside of the control panel.

11. The control panel assembly as claimed in claim 6, wherein the support comprises a cut-away portion provided at one side of the support to reduce a contact area between the rear end of the knob and the support.

12. A control panel assembly of a washing machine, comprising:
a board having a switch and parts mounted thereon;

49 a control panel installed at one side of a cabinet of the washing machine to cover the
50 board to protect, the control panel having an opening;

51 a display plate provided to the opening to have a hole at a center of the display plate;
52 and

53 a knob connected to the switch to penetrate the hole of the control panel wherein a
54 rear end of the knob is partially contacted with a backside of the control panel.

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56 13. The control panel assembly as claimed in claim 12, wherein a top of the rear
57 end of the knob is brought line-contact with the backside of the control panel.

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59 14. The control panel assembly as claimed in claim 12, wherein a rear end
60 surface of the knob and the backside of the control panel are arranged to differ in angles.

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62 15. The control panel assembly as claimed in claim 12, wherein the knob
63 comprises a flange extending from a circumference of a rear end to be partially brought line-
64 contact with the backside of the control panel.

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66 16. The control panel assembly as claimed in claim 15, wherein a front side of
67 the flange and the backside of the control panel are arranged to differ in angles.

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69 17. The control panel assembly as claimed in claim 12, further comprising a
70 support provided between the board and the knob to support the knob slant to the backside of
71 the control panel.

73 18. The control panel assembly as claimed in claim 17, wherein the knob
74 comprises a flange extending from a circumference of a rear end to be supported by the
75 support and to be partially brought line-contact with the backside of the control panel.
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77 19. The control panel assembly as claimed in claim 17, wherein the support
78 makes one side of the rear end of the knob adhere closely to the backside of the control panel
79 and the other side of the rear end of the knob separated from the backside of the control panel
80 to support the knob.
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82 20. The control panel assembly as claimed in claim 17, wherein the support
83 encloses the switch.
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85 21. The control panel assembly as claimed in claim 17, wherein the support
86 comprises a first face extending inward from an inner circumference of the support to support
87 the rear end of the knob slant to the backside of the control panel.
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89 22. The control panel assembly as claimed in claim 17, wherein the support
90 comprises a cut-away portion provided at one side of the support to reduce a contact area
91 between the rear end of the knob and the support.
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93 23. The control panel assembly as claimed in claim 17, further comprising:
94 a light-emitting member provided to the board; and
95 at least one aperture provided to the support to transmit light emitted from the light-
96 emitting member.

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98 24. A washing machine comprising:

99 a cabinet;

100 a tub in the cabinet;

101 a drum rotatably installed in the tub;

102 a control panel assembly, comprising:

103 a board having a switch and parts mounted thereon;

104 a control panel installed at one side of a cabinet of the washing
105 machine to cover the board to protect; and

106 a knob connected to the switch to penetrate the control panel wherein
107 a rear end is partially contacted with a backside of the control panel.

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109 25. The washing machine as claimed in claim 24, further comprising a support
110 provided between the board and the knob to support the knob slant to the backside of the
111 control panel.

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113 26. A control panel assembly of a washing machine, comprising:

114 a board having a switch and parts mounted thereon;

115 a control panel installed at one side of a cabinet of the washing machine to cover the
116 board to protect, the control panel having an opening;

117 a display plate provided to the opening to have a hole at a center of the display plate;
118 and

119 a knob connected to the switch to penetrate the hole of the control panel wherein a
120 rear end of the knob is partially contacted with a backside of the control panel.

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122 27. The control panel assembly as claimed in claim 26, further comprising a
123 support provided between the board and the knob to support the knob slant to the backside of
124 the control panel.

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